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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,810

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Akihiko Ueda

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

HU, HENRY S

ART UNIT

PAPER NUMBER

1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,810	Applicant(s) UEDA ET AL.	
	Examiner HENRY S. HU	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment of July 7, 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) 6-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-3 and 5-8 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. USPTO has received **Amendment** filed on July 7, 2008, which is in response to non-final office action filed on April 7, 2008. **Claims 1-2 are amended; Claim 4 is cancelled, while no new claim is added.** To be more specific, parent **Claim 1** is amended to incorporate the limitation of dependent Claim 4 so that one of Rf many factors is narrowed down as “a linear or branched **fluoroalkyl or fluoroalkenyl group each having 1-6 carbon atoms** (instead of original 1-21 carbon atoms)”, Claim 4 is cancelled accordingly.

The examiner thereby withdraws claim objection for Claim 2 in the previous Office Action filed on April 7, 2007. **Claims 1-3 and 5-8** with only **one** independent claim (**Claim 1**) are now pending, while non-elected Group II (Claim 6) and Group III (Claims 7 and 8) are still both withdrawn from consideration. An action follows.

Response to Argument

2. Applicant's argument filed on July 7, 2008 has been fully considered but they are not persuasive. The focal arguments related to the patentability will be addressed as follows: The amendment on parent Claim 1 is only to **narrow down** the use of one of many Rf factors as “a linear or branched **fluoroalkyl or fluoroalkenyl group each having 1-6 carbon atoms** (instead of original 1-21 carbon atoms)”. Although the scope is a narrow down from original scope of

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parent Claim 1, **all three 103 rejections are sustained** with somewhat modified ground of rejection after a close examination. **Final rejection is thereby applied.**

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. The limitation of parent **Claim 1** in present invention relates to **a fluorine-containing polymer for a masonry treatment**, comprising **two** components including:

(A) a fluorine-containing monomer having a formula (I) $R_f-Y-O-C(=O)-CX=CH_2$ with all the three factors X, Y and R_f as specified, and

(B) a monomer containing a functional group reactive with active hydrogen.

*According to current narrow down, one of many **Rf** factors is now “**a linear or branched fluoroalkyl or fluoroalkenyl group each having 1-6 carbon atoms** (instead of original 1-21 carbon atoms)”.*

According to dependent **Claim 2**, said functional group is selected from the group consisting of **a silane group, a phosphate group, a carboxylate group, a sulfate group and a glycidyl group.**

*See other limitation of dependent **Claims 2-3 and 5.***

5. **Claims 1-3 and 5 are rejected** under 35 U.S.C. 103(a) as obvious over **Takanobu et al. (JP 2002-105433), Wataru et al. (JP 05-017538) or Naoki et al. (JP 11-124419), each individually in view of Ohmori et al. (EP 247,489 A2) and/or Tsunenori et al. (JP 2003-154307)** for the reasons set forth in paragraphs 5-9 of office action dated 4-7-2008 as well as the discussion below.

6. Parent **Claim 1** relates to **a fluorine-containing polymer (to be useful for a masonry treatment)** comprising **two** components including: (A) a fluorine-containing monomer having a formula (I) $R_f-Y-O-C(=O)-CX=CH_2$, and (B) a monomer containing a functional group reactive with active hydrogen. With current amendment, one of many **Rf** factors is now “**a linear or branched fluoroalkyl or fluoroalkenyl group each having 1-6 carbon atoms**.” Certainly the scope for **Rf** factor is a narrow down from original 1-21 carbon atoms. However, current claim limitation is still not patentable enough after full examination as follows:

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7. Applicants allege on page 7 of Remarks that unexpected results are obtained on working examples with comparative examples (see Tables 1 and 2 for soil resistance test on granite and limestone). After a close examination on pages 12-14 of specification, the unexpected results are actually obtained from the use of $-C-CO-C(Cl)=CH_2$ or $-C-CO-C(F)=CH_2$ in comparison with $-C-CO-CH=CH_2$ (see comparative examples 1 and 2). In other word, **it is not achieved from the use of Rf being C₁₋₆ in comparison with C_{>6}**. In view of **Examples 1 and 3**, Examiner agrees that the fluoropolymer made from $-C-CO-C(Cl)=CH_2$ may be behaved similar to that from $-C-CO-C(F)=CH_2$.

8. With respect to the narrow down on the carbon atom numbers from 1-12 to **1-6**, the carbon atom numbers (2-31 or 6-12) used by references are still “**at least partially**” overlapping with the new range **1-6**. Attention is directed to the fact that **Takanobu** has explicitly used a fluoroalkyl having **C₂₋₃₁** in the formula (1) at abstract, while each of **Wataru and Naoki** has individually used **C₆₋₁₂ fluoroalkyl group**-containing fluoroalkyl acrylate monomer as monomer (A) (see Wataru at abstract; see many monomer examples at **paragraph 0013 at lines 1-5**; see Naoki at abstract; see formula 10 at **paragraph 0008 with n³ being 1-8 and n⁴ being 1-30**).

9. Therefore, each of Takanobu, Wataru and Naoki is still “**only**” silent about using the fluorinated monomer having formula (I) with the **X substituent being not a hydrogen atom but is specifically a fluorine, a chlorine, a bromine, an iodine, a CFX₁X₂ or a cyano group**.

10. **Two** secondary references **Ohmori and Tsunenori** in combination or alone has taught such a subject matter. **Ohmori** has disclosed that in the course of making fluorine-containing water- and oil-repellant composition, the X substituent in the same position of double bond can be **a fluorine atom or a CFX₁X₂ group** (see page 4, line 17-22; particularly see line 17-19; abstract, line 1-15). By doing so, the advantage is that good adhesion can be achieved to the articles to be treated (page 1, line 4-6).

Regarding the use of different type X at the same position of double bond, **Tsunenori has disclosed the functional equivalence and interchangeability among hydrogen atom, methyl group and fluorine atom** (see paragraphs 0024-0033; particularly see compound 10 with fluorine atom, and compound 18 with hydrogen atom).

11. In light of the fact that “**at least some**” of **Ohmori and/or Tsunenori’s acid-containing monomers are structurally reading on the monomers disclosed on instant Claim 2** and the fluorocopolymers are for the same or similar substrate protection purpose, one having ordinary skill in the art would therefore have found it obvious to modify Takanobu, Wataru or Naoki’s process of making fluorocopolymers on the treatment masonry substrate by **adding or replacing with F- or CFX₁X₂-substituted fluoromonomer** as taught by Ohmori and/or Tsunenori. By doing so, one would expect that all species in the same genus (fluoromonomer) would succeed based on functional equivalence and interchangeability. Additionally, more diversified and durable product can be thereby obtained with better adhesion.

12. In summary, **all three 103 rejections are sustained** with somewhat modified ground of rejection after a close examination. **Final rejection is thereby applied.**

Conclusion

13. Applicant's amendment **necessitated the new ground(s) of rejection presented in this Office action.** Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu** whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Vasu Jagannathan, can be reached on (571) 272-1119. The **fax** number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Peter D. Mulcahy/
Primary Examiner, Art Unit 1796

/Henry S. Hu/
Examiner, Art Unit 1796

October 13, 2008